The Raffles Dialogue on Human Wellbeing and Security

Authors' reply

We thank Boris Cvet for his comments on our Article[1] and agree with him that discovering new uses for old drugs offers great promise with regard to making treatments for neglected tropical diseases in low-income and middle-income countries more cost-effective and accessible. This is an important and neglected area.[2] While we agree with Cvek that an imbalance exists in the role of governments and markets in investing in drug discovery and development, we propose that this is only one dimension of the problem. Broadly speaking, and with the large investments involved, we believe that most governments will neither have the resources, nor the political will, to invest in the clinical development of such drugs, and are therefore unlikely to make the necessary commitments. Instead, we suggest that governments can help facilitate the achievement of the desired right balance between the roles of government and markets through alternative but complementary and synergistic strategies. We propose four such strategies.

First, governments can support the development of publicly accessible collections of existing drugs.[3] Despite the promise that finding new uses for existing drugs is a proven shortcut to improve access, comprehensive collections of the nearly 10 000 drugs known to medicine does not exist.[3] Government support for development of collections such as the Johns Hopkins Clinical Compound Library[3] would go a long way to facilitating the rediscovery process. As suggested by Cvek, such a strategy will facilitate government-backed efforts to, as he put it, "systematically monitor positive side-effects of existing drugs".

Second, governments can play an important part in providing incentives for industry to invest in discovering new uses for old drugs. For example, it could consider the extension of patent protection for old drugs that have found new uses, for example, as embodied in the Hatch-Waxman Act in the USA.[4]

Third, it can provide more funding to support research aimed at better understanding of the modes of action of drugs, a fundamental requisite in discovering new uses for old drugs.[5] Such support should emphasise the application of newer in silico approaches and the harnessing of computer power in the fields of computational drug discovery, biomedical informatics, and so-called big data analytics.[5]

In a related vein, governments can also facilitate and support the development of interdisciplinary collaboration networks of key stakeholders in academia and industry. Taken together, these strategies will go a long way in repurposing and repositioning older drugs to help in health improvement globally.

We declare no competing interests.

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1 Pang T, Chong YS, Fong H, et al. Yes we can! The Raffles Dialogue on Human Wellbeing and Security. *Lancet Glob Health* 2015; **3:** e496–500.

2 Pedrique B, Strub-Wourgaft N, Some C, et al. The drug and vaccine landscape for neglected diseases (2000–11): a systematic assessment. *Lancet Glob Health* 2013; **1:** e371–79.

3 Chong CR, Sullivan DJ. New uses for old drugs. *Nature* 2007; **448:** 645–46.

4 Pensabene LB, Gregory D. Hatch Waxman Act: overview. *Practical Law Company* 2013. http://www.fitzpatrickcella.com/DB6EDC/assets/files/News/Hatch-Waxman%20Act%20Overview%20lpensabene_dgregory.pdf (accessed Nov 7, 2015).

5 Shaughnessy A. Old drugs, new tricks. *BMJ* 2011; **342:** 360–61.